



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

FINAL POLLUTION REPORT

VASQUEZ BLVD. & I-70 (aka North Denver Residential)
City and County of Denver, Colorado

I. HEADING

Date: **10/02/99**
Site Name: Vasquez Blvd. & I-70
(aka North Denver Residential)
From: Pete Stevenson, OSC
To: Patty Smith, EPA Headquarters
POLREP No.: **Final**

II. BACKGROUND

Site No.: 9R
Response Authority: CERCLA
Action Memorandum: September 16, 1998
Start Date : October 13, 1998
Completion Date: **October 1, 1999**

III. SITE INFORMATION

A. Incident Category

Time-Critical, Fund-Lead, Removal Action

B. Site Description

1. Site Location

The Site is located in the northwest part of Denver and generally is bounded by the South Platte River on the West, Colorado Boulevard on the East, 35th Avenue on the South, and 52nd Avenue on the North.

2. Site Characteristics

The Site area was settled in 1851, four years after the first pioneers entered the valley. Approximately 5700 people currently live in Elyria and Swansea, the predominant neighborhoods in the Site area. Youth under



18 comprise 36% of the residents (twice the average of the City of Denver).

Soon after development of the area, it was presumably contaminated by wastes containing lead and arsenic from smelting operations in the area. At least three smelters operated in the area in the late 1800s. These smelters reportedly deposited wastes within or adjacent to the Site.

3. Description of Threat

Arsenic and, to a lesser degree, lead have been identified at the Site as the contaminants of concern. Arsenic and lead are hazardous substances, as defined by Section 101 (14) of CERCLA. These hazardous substances may have been released into the residential soils by historic smelting activities and spread through the Community by aerial deposition. At least 21 properties contain arsenic and lead at levels of concern to the Removal Program.

Because arsenic contamination is found in unsodded areas that are used for recreation, there is also a potential for contaminated soil to be wind-blown and dust-sized particles to be transported by wind and human activities into additional yards and into homes.

There are an estimated 6000 cubic yards of soil contaminated above the selected Removal Program health protective action level of 2000 ppm lead and/or 450 ppm arsenic.

IV. RESPONSE INFORMATION

A. Situation

1. Action description

The following represents factors considered in determining whether properties within the community would be included within EPA's time critical removal action. These criteria were developed with input from EPA toxicologists, technical staff, and CDPHE/Denver personnel. They were based on the need to provide immediate reduction in exposure to arsenic/lead contaminated soil. These factors were generally considered on a zone-by-zone basis to establish whether

an individual zone should be addressed to safeguard the overall residential yard for a young child. Both current and potential future exposures were considered in applying the criteria.

Twenty-one properties were identified as candidates for this Removal Action and eighteen were selected for remediation.

Zones on properties were generally included in the Removal Action if the average surface soil concentration (top 2") exceeded 2000 mg/kg of lead or 450 mg/kg of arsenic. In those instances soil was removed to a 12" depth - for vegetable gardens soil was removed to 18". This strategy provided two layers of protection: A protective barrier of at least twelve inches of clean material was established; and, if in the future this barrier is disrupted, average surface concentrations will remain below a health protective level. The depth of all removals was 12". This depth provides an adequate barrier between soil contamination, if any, and children. In vegetable gardens removal of 18" will provide adequate protection under typical day-to-day exposure scenarios.

Owners were asked for permission to remediate their residential areas. Detailed plans were developed for the properties, and owners were provided copies and an opportunity to discuss the plans. The removal schedule was provided to the owner; and after the removal, replacement of sod, etc., each owner reviewed the action with the OSC and discussed any future activities.

2. Project Schedule

Soil removal activities were started on 10/13/98, and most of the individual site work was completed during Spring/Summer of 1999. At this time the monitoring of the revegetation has been completed, and the removal is considered to be complete.

V. COST INFORMATION

The budget which was established for this Removal Action was \$985,000 and it appears that the cost factors involved in the Removal are well below the ceiling.

